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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,888	04/20/2005	Shinkichi Ikeda	MAT-8683US	5896

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EXAMINER	
NOORISTANY, SULAIMAN	
ART UNIT	PAPER NUMBER
2446	
MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/531,888	IKEDA ET AL.	
	Examiner	Art Unit	
	SULAIMAN NOORISTANY	2446	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *5/12/2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4,7,11,15 and 20-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4,7,11,15,20-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 April 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/20/2005, 5/8/2008 & 6/23/2009*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Detailed Action

This Office Action is response to the application (10/531888) filed on 5/12/2009

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114. including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 7 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/18/08 has been entered.

Claim Rejections - 35 USC § 103

The text of those sections of the Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Johnson** U.S Patent App. No. **US 20060036763** in view of **O'Riordan** US Patent No. **US 7227838** further in view of **Stracke** U.S Patent No. **US 6,047,330** further in view of **Li** US Patent No. **US 5473599.**

Regarding claim 1, Johnson teaches wherein a method for a router setting, the method comprising:

establishing a connection between requesting, by a mobile router device and, local area network including first and second router devices, wherein a first router device is a master router device which distributes data packets to said local area network prior to establishing said connection **(new router transmit discovery request – [0056-0058])**;

transmitting, virtual router information from said first router device to said mobile router device after establishing said connection, said virtual router information **(the root router "here is same as first router" transmits an instruction to the new router – [0058])**;

configuring said priority value to said mobile router device **(Routers can discover source nodes by manual configuration or by receiving automatic advertisement messages from source nodes – [0048])**.

With respect to claim 1, Johnson teaches the invention set forth above except for the claimed "a priority value, a preference value and calculating said priority value"

O'Riordan teaches that it is well known to have system for a priority value, said priority value is one of a plurality of priority values associated with each of the first router device coupled to said local area network, each of said priority values determining priority for each router device being said master router device, and a preference value of a plurality of preference values associated with indicating whether a performance of each router device, respectively; calculating said priority value of said mobile router device based on said priority value of said first router device and said preference value of said first router device, and **(FIG. 6 is a diagrammatic representation of a**

redundancy router system incorporating the hot standby router protocol (HSRP) in accordance with an alternative embodiment of the present invention – col. Col. 12, lines 40-65);

configuring said priority value to said mobile router device **(Each SVI may be formed by setting up suitable data structures that represents the new SVI and is associated with the designated router – col. 10, lines 40-45)** in order to make the system more efficient and providing redundancy in a network for forwarding data between different hosts within such network (col. 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Johnson's invention by having the routers share the same IP and MAC address on each logical interface. The routers do not each also use a unique IP and MAC address in addition to the shared IP and MAC address, in contrast to conventionally configured routers of the hot standby router protocol (HSRP. In addition, although the host is only aware of a single virtual router, the routers within the HSRP group are aware of each other. All other routers in the network also see every router in the HSRP group. That is, the routers each have their own MAC and IP addresses through which they communicate with each other. The routers of a particular HSRP group communicate with each other, for example, to determine which router is to be the active router and which is to be the standby router. Managing multiple routers having unique IP and MAC addresses within an HSRP group results in an undesirable level of complexity. Additionally, managing and ensuring scalable growth with an ever increasing number of routers within each HSRP group will likely become a significant

problem in the near future, where it would be desirable to provide an alternative redundant router scheme, as taught by O'Riordan (col. 1).

Stracke further teaches that is well known to have the virtual router information processing section executes a process to request the information when the information processing section detects a connection to the local area network **(The Manage Router Topology task receives (detect) external heartbeat packets from the IP multicast task and checks the virtual network topology database for any new possible router connections – Col. 4, lines 51-54)**, and the other router device sends the information to the virtual router information processing section device based on the request **(Fig. 3-5);**

Stracke further teaches wherein the information includes a preference for the second router device to calculate its own priority **(Fig. 4-5 – col. 2, lines 45-50)**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Johnson's invention by referring to the heartbeat multicast packet which contains the TTL value in the header of the packet. The TTL value is also placed in the body of the packet. THE TTL value is decremented at each hop, but the receiving router knows what the TTL value is by reading the body of the packet. The originating router gets an estimate of how far away the receiving router is when it receives the response packet from the receiving router (i.e. the receiving router is less than TTL hops away from the originating router). The router uses the TTL values to find the closest routers. It balances the efficiency of the network connections with the distance of the routers to create a balanced network topology. Connections are

established with the routers that meet these criteria. Furthermore, the system relies on the IP multicast network. The IP network carries multicast packets. The address of the sender is contained in the multicast packet. If a router wants to talk to the sending router, it talks to that router through the established virtual network. If the virtual network does not exist, then it attempts to connect to the sending router anyway, as taught by Stracke.

Li further teaches a priority value, a preference value and calculating said priority value **(preference value -- col. 1, lines 40-50; priority value -- col. 2, lines 15; col. 3, lines 45)**.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Johnson's invention by utilizing systems in which the host becomes overly dependent upon a single router have similar problems. For example, in a "proxy ARP" protocol, a router may give a host its address in response to the host's request for an address outside of its local LAN. Thereafter, the host directs its traffic through that router. If the host does not often update its ARP table entry (which lists physical addresses of available routers), it may continue to assume that it should send all data packets through the same router, even after that router fails. Unfortunately when this happens, the host can no longer communicate outside its own LAN, as taught by Li.

Claim 7 list all the same elements of **claim 1**, but in mobile router device rather than method form. Therefore, the supporting rationale of the rejection to **claim 1** applies equally as well to **claim 7**.

Claims 4, 11, 15, 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Johonson** U.S Patent App. No. **US 20060036763** in view of **O'Riordan** US Patent No. **US 7227838** further in view of **Stracke** U.S Patent No. **US 6,047,330** further in view of **Li** US Patent No. **US 5473599** further in view of **Jenson** US Patent App. No **US 20020186653**.

Regarding claim 4, Johnson, O'Riordan & Stracke together taught a router device in claim 1 above. Johnson, O'Riordan & Stracke are silent in terms "*virtual router identifier, a virtual IP address and a virtual MAC address*"

Jenson teaches that it is well known to have system wherein the virtual router information includes a virtual router identifier, a virtual IP address and a virtual MAC address ((**virtual Internet Protocol (IP) address, Col. 1, [0009], medium access control (MAC) network address, Page. 1, [0010]).**

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Johnson's invention by utilizing a network typically comprises a number of network nodes connected together by communications media. Information is passed from one network node to another from a source until it arrives at an intended destination. The series of nodes and communications media between a source and destination may be collectively referred to as a "path." From time to time, a node may go down in a given path, and an alternate or redundant path is required to communicate the information. Conventional solutions, however, may require expensive

hardware or software to provide the alternate path. Furthermore, conventional solutions may be relatively complex thereby increasing difficulty and cost in implementing the technology for a particular network. Consequently, there may exist a substantial need for a method and apparatus to provide redundancy in a network while reducing the cost and/or complexity of the network, as taught by Jenson [0001].

Regarding claim 11, Jenson further teaches wherein the virtual router information processing section, when receiving the virtual information, further executes a process to send virtual router information being set to the other router device **("The active network node may periodically send a control message to the standby (second node) network node. The control message may inform the standby (second node) network node that the active network node is active or in operation" -- [0010]).**

Li further teaches wherein the virtual router information processing section, when receiving the virtual information, further executes a process to send virtual router information being set to the other router device **(Fig. 2 -- is a block diagram of a network segment having two standby groups of routers, each having a router which emulates a group virtual router; FIG. 4 is a process flow diagram showing the steps involved in replacing a departing standby router with a new router from a group of routers – col. 6, lines 10; col. 9, lines 41)**

Regarding claim 15, Jenson further teaches wherein the information processing section sends the information at a regular interval **(The active network node may**

periodically send a control message to the standby network node -- Page. 1, [0010], The second network node may determine whether it receives control information from the first network node during a predetermined time interval at – Page. 3, [0023]).

Regarding claim 20, Jenson teaches that it is well known to have system wherein the virtual router information includes a virtual router identifier, a virtual IP address and a virtual MAC address (**(virtual Internet Protocol (IP) address, Col. 1, [0009], medium access control (MAC) network address, Page. 1, [0010]).**

Regarding claim 21, Jenson teaches that it is well known to have system wherein the virtual router information includes a virtual router identifier, a virtual IP address and a virtual MAC address (**(virtual Internet Protocol (IP) address, Col. 1, [0009], medium access control (MAC) network address, Page. 1, [0010]).**

Regarding claim 22, Jenson teaches that it is well known to have system wherein the virtual router information includes a virtual router identifier, a virtual IP address and a virtual MAC address (**(virtual Internet Protocol (IP) address, Col. 1, [0009], medium access control (MAC) network address, Page. 1, [0010]).**

Regarding claim 23, Jenson teaches that it is well known to have system wherein the virtual router information includes a virtual router identifier, a virtual IP address and a

virtual MAC address ((**virtual Internet Protocol (IP) address, Col. 1, [0009], medium access control (MAC) network address, Page. 1, [0010]).**

Regarding claim 24, Stracke further teaches wherein the information includes a preference for the second router device to calculate its own priority **(Fig. 4-5 – col. 2, lines 45-50)**.

Regarding claim 25, Stracke further teaches wherein the information includes a preference for the second router device to calculate its own priority **(Fig. 4-5 – col. 2, lines 45-50)**.

Response to Arguments

Applicant's arguments with respect to claims 1, 4, 7, 11, 15, 20-23 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sulaiman Nooristany whose telephone number is (571) 270-1929. The examiner can normally be reached on M-F from 9 to 5. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Pwu, can be reached on (571) 272-6798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the

status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sulaiman Nooristany 07/15/2009

/Jeffrey Pwu/

Supervisory Patent Examiner, Art Unit 2446